# COMMONWEALTH OF VIRGINIA Department of Environmental Quality Piedmont Regional Office

# STATEMENT OF LEGAL AND FACTUAL BASIS

Virginia Electric and Power Company
Dominion - Gravel Neck/Surry Power Stations – Surry County, Virginia
Permit No. PRO50336

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Virginia Electric and Power Company has applied for a renewal of the Title V Operating Permit for its Dominion - Gravel Neck/Surry Power Station facility. The Department has reviewed the application and has prepared a draft renewal Title V Operating Permit.

Engineer/Permit Contact:  Dick Stone (804) 527-5088	Date: 05/17/2016
Air Permit Manager:  James E Kyle, P.E.	Date: 5/17/2010
Deputy Regional Director:  Kyle Ivar Winter, P.E.	Date: 3/1/2/

# **FACILITY INFORMATION**

Permittee
Virginia Electric and Power Co.
5000 Dominion Boulevard
Glen Allen, VA 23060

Facility
Dominion Gravel Neck/Surry Power Stations
Route 650
Surry, VA, 23883
County-Plant Identification Number: 51- 181-0002

#### **CURRENT PERMIT ACTION DESCRIPTION**

This permitting action is a renewal to the Dominion Gravel Neck/Surry Power Station Title V operating permit issued on March 30, 2004 and as amended on June 12, 2006 with an expiration date of March 30, 2009. The renewal application for the Dominion Gravel Neck/Surry Power Station Title V operating permit was received on September 17, 2008. An initial application review letter dated September 25, 2008 was sent to Virginia Electric and Power Company. The renewal application was considered timely since it was submitted six months prior to permit expiration. This permitting action will also incorporate CAIR requirements which were previously vacated into the current Title V permit. On December 23, 2008, the U.S. Court of Appeals for the District of Columbia reversed its previous decision concerning the vacated CAIR ruling, and remanded the rule (CAIR) to EPA. This means that CAIR remains in place until EPA provides another regulation. Since Dominion's renewal application was timely, the current Title V permit and permit shield will remain in effect according to 9 VAC 5-80-80 F and 9 VAC 5-80-170 C.

#### SOURCE DESCRIPTION

NAICS Code: 221112 – Electric Power Generation SIC 4911 – Electrical Services

The Dominion Gravel Neck /Surry Power Station is actually two electric power generating facilities under common ownership located on contiguous properties. The Surry Power Station is a nuclear-powered electric generating facility, which is regulated by the US Nuclear Regulatory Commission. There are two 90.6 mmBtu/hr Babcock & Wilcox distillate oil-fired backup boilers (Ref. Nos. ES-101, ES-102) at the Surry Power Station, each capable of producing 80,000 pounds of steam per hour. These backup boilers were constructed in 1969 and are subject to the existing source regulations (9 VAC 5 Chapter 40). The two 90.6 mmBtu/hr Babcock and Wilcox distillate oil-fired backup boilers (Ref. Nos. ES-101, ES-102) are not subject to 40 CFR 60, Subpart Dc (NSPS) because the boilers were constructed before June 9, 1989.

There are two distillate oil-fired backup generators (Ref. Nos. IS-101, IS-102) located at the Surry site which are subject to the existing source regulations as well. The 4640 HP (Ref. No. IS-101) oil-fired backup generator received a permit on 09/27/93 as an emergency generator. The 4640 HP (Ref. No. IS-101) generator is not subject to 40 CFR 60, Subpart IIII because this NSPS Subpart does not apply to generators manufactured before 04/01/06. The 3950 HP (Ref. No. IS-102) generators are also emergency generators and are not subject to 40 CFR 60, Subpart IIII because this NSPS Subpart does not apply to generators manufactured before 04/01/06.

Dominion Gravel Neck / Surry Power Station PRO50336 Statement of Basis Page 3

The Gravel Neck station is a natural gas and distillate oil-fired peaking plant consisting of six (6) combustion turbines (Ref. Nos. ES-1, ES-2, ES-3, ES-4, ES-5, ES-6). Two of the turbines are Westinghouse models rated at 281 mmBtu/hr (Ref. No. ES-1) and 363 mmBtu/hr (Ref. No. ES-2). These two units were constructed in 1970 and are equipped with diesel starter engines rated at 2.35 mmBtu/hr (Ref. No. ES-7) and 4.59 mmBtu/hr (Ref. No. ES-8). These two turbines (Ref. No. ES-1, ES-2) and their starter engines (Ref. Nos. ES-7, ES-8) are subject to the existing source regulations (9 VAC 5 Chapter 40). The two turbines (Ref. Nos. ES-1, ES-2) are not subject to 40 CFR 60, Subpart GG (NSPS) because these units were constructed before October 3, 1997.

The remaining four (4) turbines (Ref. No. ES-3, ES-4, ES-5, ES-6) are General Electric (GE) models constructed in July 1989, each nominally rated at 1300 mmBtu/hr. The emission limits for the GE turbines were developed from the manufacturer's specifications in the November 21, 1988 permit. There were no separate emission factors for PM and PM-10 at that time. In the Virginia regulations (9 VAC 5-80-1320 C,D), there are two components for particulate matter, PM and PM-10. The agency uses PM unless PM-10 can be quantified. In addition, the start-up, shut-down and malfunction emissions are exempt in the short term, but are included in the annual emissions. The primary fuel for the GE turbines is natural gas and the secondary fuel is No. 2 distillate oil. The four GE turbines are subject to 40 CFR 60 (NSPS) Subpart GG- Standards of Performance for Stationary Gas Turbines and operate under a NSR permit dated December 15, 2009.

Two of the distillate oil storage tanks were previously subject to 40 CFR 60 Subpart Kb-Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction. Reconstruction, or Modification Commenced After July 23, 1984. However, Subpart Kb was amended on October 15, 2003. Its applicability was changed to exclude storage vessels with a capacity greater than 151 cubic meters (40,000 gallons) storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals. The fuel tanks on site have a capacity of 3.15 million gallons and store only distillate oil, which has a maximum true vapor pressure of less than 1 kilopascal. Although the tanks were previously subject to Subpart Kb, they no longer are.

None of the units at the Dominion Gravel Neck / Surry Power Station are subject to the provisions of the Phase II Acid Rain Program (40 CFR Part 72); however, the facility is subject to the Clean Air Interstate Rule (40 CFR Part 96 Subpart AA). This Rule applies to fossil fuel-fired turbines serving a generator with a nameplate capacity greater than 25 MWe since November 15, 1990 and producing electrical power for sale.

The facility is a Title V major source due to the potential emissions of NO<sub>x</sub> and SO<sub>2</sub>. It is located in an attainment area for all criteria pollutants.

#### **COMPLIANCE STATUS**

A full compliance evaluation of this facility, including a site visit, was conducted on May 28, 2008. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

# **EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION**

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Nominal Capacity	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled
Fuel Burning Equipment	-quipmen	1				
Surry Power Station	ation					
ES - 101	EP-101	Unit A Babcock & Wilcox Oil-Fired Boiler	90.6 MMBtu/hr		1	
ES - 102	EP-102	Unit B Babcock & Wilcox Oil-Fired Boiler	90.6 MMBtu/hr	•	, ,	,
IS - 101	IP-101	Caterpillar 3600 Series Diesel Backup Electric Generator	4640 HP	•	t	,
IS - 102	IP-102	(3) Backup Electric Generators	3950 HP each	_		ſ
Gravel Neck Combustion Turbine Station	mbustion	Turbine Station				
ES - 1A (oil) ES - 1B(gas)	EP-1	Unit 1 - Westinghouse 191 Combustion Turbine	281.3 MMBtu/hr	•	'	i r
ES - 2A (oil) ES - 2B (gas)	EP-2	Unit 2 - Westinghouse 251 Combustion Turbine	363.3 MMBtu/hr	•	1	r
ES - 3A (gas) ES - 3B (oil)	EP-3	Unit 3 - General Electric PG 7111-EA Combustion Turbine	1308 MMBtu/hr (gas) 1246 MMBtu/hr (oil)	Water Injection	CD-3	× ON
ES - 4A (gas) ES - 4B (oil)	EP-4	Unit 4 - General Electric PG 7111-EA Combustion Turbine	1308 MMBtu/hr (gas) 1246 MMBtu/hr (oil)	Water Injection	CD-4	NO <sub>x</sub>
ES - 5A (gas) ES - 5B (oil)	EP-5	Unit 5 - General Electric PG 7111-EA Combustion Turbine	1308 MMBtu/hr (gas) 1246 MMBtu/hr (oil)	Water Injection	CD-5	N V V
ES - 6A (gas) ES - 6B (oil)	9-43	Unit 6 - General Electric PG 7111-EA Combustion Turbine	1308 MMBtu/hr (gas) 1246 MMBtu/hr (oil)	Water Injection	9-Q2	NOx
ES - 7	EP-7	Unit 1 Starter Diesel Engine	2.35 MMBtu/hr	•	•	,
ES - 8	EP-8	Unit 2 Starter Diesel Engine	4.59 MMBtu/hr	•	ŧ	,

# **EMISSIONS INVENTORY**

The 2008 annual emissions (as reported in CEDS) are summarized in the following table:

2008 Pollutant Emissions (Plantwide Total)			
Pollutant Tons Emitted			
Criteria Pollutants			
PM <sub>10</sub>	2.25		
VOC	1.99		
NO <sub>X</sub>	79.67		
SO₂	28.58		
CO 9.56			
Hazardous Air Pollutants (HAP's)			
THAP	< 1.0		

#### **FUEL BURNING EQUIPMENT**

# □ Babcock & Wilcox 90.6 mmBtu/hr Oil-Fired Boilers (ES-101 & ES-102)

#### Limitations

The Babcock & Wilcox oil-fired boilers have the following applicable requirements from 9 VAC 5 Chapter 40, Part II, Article 8, *Emission Standards for Fuel Burning Equipment (Rule 4-8). These are the existing source rules.* 

• Particulate Emissions - 9 VAC 5-40-900 A.1.b

 $E = 1.0906 \times H^{-0.2594}$ 

Where: E = Maximum allowable emissions ratio, expressed in lbs./mmBtu.

H = Total capacity of fuel burning equipment installation, expressed in mmBtu/hr.

 $E = 1.0906 \times (2 \times 90.6 \text{ mmBtu/hr})^{-0.2594}$ 

= 0.283 lb/mmBtu

Sulfur Dioxide - 9 VAC 5-40-930 A.1

 $S = 2.64 \times K$ 

Where: S = Maximum allowable sulfur dioxide emission rate, expressed in lbs/hr.

K = Total heat input at total capacity, expressed in mmBtu/hr.

Opacity - 9 VAC 5-40-940

Visible emissions shall not exceed 20% opacity, except during one six-minute period of not more than 60% opacity.

# Monitoring & Recordkeeping:

- The permittee shall maintain records demonstrating that the sulfur and heat contents of the fuel oil being fired in the Babcock & Wilcox oil-fired boilers (ES-101 and ES-102) are such that the SO<sub>2</sub> emissions generated from each unit do not exceed 2.64 lb/mmBtu. The use of distillate oil that meets the specifications for No. 1 or No. 2 fuel oils, may be used to demonstrate compliance with the SO<sub>2</sub> emission limit, provided that fuel certifications are obtained from the fuel supplier with each shipment. These records shall be available on site for inspection by the DEQ and kept on file for the most current five-year period.
- In the event that either Babcock & Wilcox boiler (ES-101 or ES-102) is operated for a total of more than 20 cumulative hours during a calendar year, the permittee will demonstrate compliance with the opacity limits by conducting visible emissions observations (VEO's) on each boiler exhaust (EP-101 and EP-102). The frequency of these checks shall be:
  - at least one VEO per calendar year.
  - at least one VEO every 200 hours of boiler operation.
  - at least one VEO during any operability verification testing conducted on the boiler.
     Operability verification testing refers to any periodic tests conducted by the source to assure that the boilers could be put into operation if needed.

Each VEO shall be performed for a sufficient period of time to identify the presence of visible emissions. If visible emissions are observed, a Method 9 certified observer shall conduct a VEO. If visible emissions do not appear to exceed 10% opacity, no action shall be required. However, if the observed visible emissions appear to exceed 10% opacity, a 6-minute Method 9 visible emission evaluation (VEE) shall be conducted. If the average opacity exceeds 20%, modifications and/or repairs shall be performed to correct the problem and the corrective measures shall be recorded. If the opacity problem persists, an 18-minute VEE shall be performed to determine compliance with the 20% opacity limit.

# Caterpillar 3600 Series Diesel Electric Generator (IS-101)

# Limitations

The Caterpillar 3600 series diesel electric generator has the following applicable requirements:

- NSR permit dated September 27, 1993: The Caterpillar 3600 series diesel electric generator is to be used only for providing power at the Surry Power Station during interruption of service from the normal power supplier and for periodic testing.
- 9 VAC 5-50-80: Visible emissions from the diesel powered electric generator shall not exceed 20% opacity, except for one six-minute period in any one hour of not more than 30% opacity.

# Monitoring & Recordkeeping:

- In the event that Caterpillar 3600 series diesel electric generator is operated for a total of more than 20 cumulative hours during a calendar year, the permittee will demonstrate compliance with the opacity limits by conducting visible emissions observations (VEO's) on the generator exhaust (IEP-101). The frequency of these checks shall be:
  - at least one VEO per calendar year.
  - at least one VEO every 200 hours of generator operation.
  - at least one VEO during any operability verification testing conducted on the generator.
     Operability verification testing refers to any periodic tests conducted by the source to assure that the generator could be put into operation if needed.

Each VEO shall be performed for a sufficient period of time to identify the presence of visible emissions. If visible emissions are observed, a Method 9 certified observer shall conduct a VEO. If visible emissions do not appear to exceed 10% opacity, no action shall be required. However, if the observed visible emissions appear to exceed 10% opacity, a 6-minute Method 9 visible emission evaluation (VEE) shall be conducted. If the average opacity exceeds 20%, modifications and/or repairs shall be performed to correct the problem and the corrective measures shall be recorded. If the opacity problem persists, an 18-minute VEE shall be performed to determine compliance with the 20% opacity limit.

# □ (3) 3950 HP Diesel-Powered Backup Generators (IS-102)

# Limitations

The three (3) 3950 HP Diesel-Powered Backup Generators (IS-102), have the following applicable requirements:

• Sulfur Dioxide - 9 VAC 5-40-280 B:

S = 2.64 x K

Where: S = Maximum allowable sulfur dioxide emission rate, expressed in lbs/hr.

K = Total heat input at total capacity, expressed in mmBtu/hr.

Visible Emissions - 9 VAC 5-50-20 A and 9 VAC 5-50-80
 Visible emissions from the three (3) 3950 HP Diesel-Powered Backup Generators (IS-102),
 shall not exceed 20% opacity, except for one six-minute period in any one hour of not more
 than 30% opacity. This condition applies at all times except during startup, shutdown, and
 malfunction.

(9 VAC 5-50-20 A.4, 9 VAC 5-50-80)

# Monitoring & Recordkeeping:

- The permittee shall maintain records demonstrating that the sulfur and heat contents of the fuel oil being fired in the three (3) 3950 HP Diesel-Powered Backup Generators (IS-102) are such that the SO<sub>2</sub> emissions generated from each unit do not exceed 2.64 lb/mmBtu. The use of distillate oil that meets the specifications for No. 1 or No. 2 fuel oils may be used to demonstrate compliance with the SO<sub>2</sub> emission limit, provided that fuel certifications are obtained from the fuel supplier with each distillate oil shipment. These records shall be available on site for inspection by the DEQ and kept on file for the most current five-year period.
- In the event that any of the three (3) 3950 HP Diesel-Powered Backup Generators (IS-102) is operated for a total of more than 20 cumulative hours during a calendar year, the permittee will demonstrate compliance with the opacity limits by conducting visible emissions observations (VEO's) on the corresponding generator exhaust (IEP-102). The frequency of these checks shall be:
  - at least one VEO per calendar year.
  - at least one VEO every 200 hours of generator operation.
  - at least one VEO during any operability verification testing conducted on the generator.
     Operability verification testing refers to any periodic tests conducted by the source to assure that the generators could be put into operation if needed.

Each VEO shall be performed for a sufficient period of time to identify the presence of visible emissions. If visible emissions are observed, a Method 9 certified observer shall conduct a VEO. If visible emissions do not appear to exceed 10% opacity, no action shall be required. However, if the observed visible emissions appear to exceed 10% opacity, a 6-minute Method 9 visible emission evaluation (VEE) shall be conducted. If the average opacity exceeds 20%, modifications and/or repairs shall be performed to correct the problem and the corrective measures shall be recorded. If the opacity problem persists, an 18-minute VEE shall be performed to determine compliance with the 20% opacity limit.

#### Westinghouse Combustion Turbines 191 and 251 (ES-1 and ES-2)

#### Limitations

The Westinghouse combustion turbines (ES-1 and ES-2) have the following applicable requirements from 9 VAC 5 Chapter 40, Part II, Article 8, *Emission Standards for Fuel Burning Equipment (Rule 4-8)*:

Particulate Emissions - 9 VAC 5-40-900 A.1.b.

 $E = 1.0906 \times H^{-0.2594}$ 

Where: E = Maximum allowable emissions ratio, expressed in lbs./mmBtu.

H = Total capacity of fuel burning equipment installation, expressed in mmBtu/hr.

 $E = 1.0906 \times (281.3 + 363.3 \text{ mmBtu/hr})^{-0.2594}$ = 0.204 lb/mmBtu

Sulfur Dioxide - 9 VAC 5-40-930 A.1

 $S = 2.64 \times K$ 

Where: S = Maximum allowable sulfur dioxide emission rate, expressed in lbs/hr.

K = Total heat input at total capacity, expressed in mmBtu/hr.

Opacity - 9 VAC 5-40-940
 Visible emissions shall not exceed 20% opacity, except during one six-minute period of not more than 60% opacity.

# **Monitoring & Recordkeeping:**

- The permittee shall maintain records demonstrating that the sulfur and heat contents of the fuel oil being fired in the Westinghouse combustion turbines (ES-1 and ES-2) are such that the SO<sub>2</sub> emissions generated from each unit do not exceed 2.64 lb/mmBtu. The use of distillate oil that meets the specifications for No. 1 or No. 2 fuel oils may be used to demonstrate compliance with the SO<sub>2</sub> emission limit, provided that fuel certifications are obtained from the fuel supplier with each distillate oil shipment. These records shall be available on site for inspection by the DEQ and kept on file for the most current five-year period.
- In the event that either of the Westinghouse combustion turbines (ES-1 and/or ES-2) is
  operated for a total of more than 20 cumulative hours during a calendar year, the permittee
  will demonstrate compliance with the opacity limits by conducting visible emissions
  observations (VEO's) on the corresponding turbine exhaust (EP-1 and/or EP-2). The
  frequency of these checks shall be:
  - at least one VEO per calendar year.
  - at least one VEO every 200 hours of turbine operation.
  - at least one VEO during any operability verification testing conducted on the turbine.
     Operability verification testing refers to any periodic tests conducted by the source to assure that the turbines could be put into operation if needed.

Each VEO shall be performed for a sufficient period of time to identify the presence of visible emissions. If visible emissions are observed, a Method 9 certified observer shall conduct a VEO. If visible emissions do not appear to exceed 10% opacity, no action shall be required. However, if the observed visible emissions appear to exceed 10% opacity, a 6-minute Method 9 visible emission evaluation (VEE) shall be conducted. If the average opacity exceeds 20%, modifications and/or repairs shall be performed to correct the problem and the corrective measures shall be recorded. If the opacity problem persists, an 18-minute VEE shall be performed to determine compliance with the 20% opacity limit.

# Starter Diesel Engines for Units 1 and 2 (ES-7 and ES-8)

#### Limitations

The diesel starter engines (ES-7 and ES-8) have the following applicable requirements from 9 VAC 5 Chapter 40, Part II, Article 4, General Process Operations (Rule 4-4):

Sulfur Dioxide - 9 VAC 5-40-280 B.1.a:

 $S = 2.64 \times K$ 

Where: S = Maximum allowable sulfur dioxide emission rate, expressed in lbs/hr.

K = Total heat input at total capacity, expressed in mmBtu/hr.

Opacity - 9 VAC 5-40-320
 Visible emissions shall not exceed 20% opacity, except during one six-minute period of not more than 60% opacity.

# Monitoring & Recordkeeping:

- The permittee shall maintain records demonstrating that the sulfur and heat contents of the fuel oil being fired in the diesel starter engines (ES-7 and ES-8) are such that the SO<sub>2</sub> emissions generated from each unit do not exceed 2.64 lb/mmBtu. The use of distillate oil that meets the specifications for No. 1 or No. 2 fuel oils may be used to demonstrate compliance with the SO<sub>2</sub> emission limit, provided that fuel certifications are obtained from the fuel supplier with each distillate oil shipment. These records shall be available on site for inspection by the DEQ and kept on file for the most current five-year period.
- The startup engines on the Westinghouse combustion turbines only operate for a period long enough to get the turbines spinning at a rate sufficient to initiate fuel combustion. By their nature, the starter engines only operate for a few minutes. Since visible emission evaluations frequently require longer time periods, compliance with the 20/60% opacity limit will be demonstrated by use of distillate oil that meets the specifications for No. 1 or No. 2 fuel oils and/or by proper unit operation.

# ☐ General Electric Combustion Turbines (ES-3, ES-4, ES-5, and ES-6)

#### Limitations

The GE combustion turbines have the following applicable requirements from the NSR permit dated December 15, 2009:

- Condition 3 Nitrogen oxide (NO<sub>X</sub>) emissions from the four turbines (ES-3, ES-4, ES-5, and ES-6) shall be controlled by the utilization of water injection when firing Natural Gas and No.2 distillate fuel oil.
- Condition 4 Sulfur dioxide emissions from the four turbines (ES-3, ES-4, ES-5, and ES-6) shall be controlled by the use of low sulfur fuels.
- Condition 5 Particulate matter (PM) emissions from the four turbines (ES-3, ES-4, ES-5, and ES-6) shall be controlled by the use of clean burning fuels and good combustion operating practices.
- Condition 6 Volatile organic compounds and carbon monoxide emissions from the four turbines (ES-3, ES-4, ES-5, and ES-6) shall be controlled by the use of good combustion operating practices.

- Condition 7 The permitted facility shall not exceed 137.2 tons of NO<sub>X</sub> emissions or 120.1 tons of SO<sub>2</sub> emissions during ozone season (April 1 through October 31 of each year).
  - Condition 7A Operating restrictions the combustion turbine inlet air cooling system shall only be operated at ambient air temperatures above 60° Fahrenheit and the turbines shall be operated at a minimum of 60 MW electrical load.
  - Condition 7B Recordkeeping the permittee shall keep records of the electrical generation of the facility while the inlet cooling systems are operating.
  - Condition 7C Reporting Requirements the permittee shall report the actual emissions of NO<sub>x</sub> and SO<sub>2</sub> emitted during ozone season of each year.
  - Condition 7D The permittee shall determine the actual NO<sub>X</sub> and SO<sub>2</sub> emissions in proportion to the electrical generation of the facility while the inlet cooling systems are operating during ozone season. The NO<sub>X</sub> calculations shall be based on emission tests and the SO<sub>2</sub> calculations may be based on fuel sulfur content and actual quantities of fuel burned or actual electrical generation while the inlet cooling systems are operating during ozone season.
- Condition 8 Short-term emission limits from the operation of each of the four GE Model PG711 simple cycle combustion turbines (ES-3, ES-4, ES-5, and ES-6), while fired on natural gas, shall not exceed the limits specified below (except during start-up, shutdown and malfunction conditions):

PM / PM <sub>10</sub>	0.00537 lbs/mmBtu	6.2 lbs/hr
SO <sub>2</sub>	0.052 lbs/mmBtu	66.9 lbs/hr
VOC		2.0 lbs/hr
CO		26.2 lbs/hr
NO <sub>x</sub>		196.9 lbs/hr
NO <sub>x</sub>	42 ppmdv @ 15% O <sub>2</sub> (1-hour average)	

 Condition 9 - Short-term emission limits from the operation of each of the four GE Model PG711 simple cycle combustion turbines (ES-3, ES-4, ES-5, and ES-6) while fired on No. 2 distillate fuel oil shall not exceed the limits specified below (except during start-up, shutdown and malfunction conditions):

PM / PM	0.0123 lbs/mmBtu	12.5 lbs/hr
SO <sub>2</sub>	0.307 lbs/mmBtu	380.0 lbs/hr
VOC		6.3 lbs/hr
CO		28.5 lbs/hr
$NO_X$		320.4 lbs/hr
$NO_X$	65 ppmdv @ 15% O <sub>2</sub> (1-hour average)	(Fuel Bound Nitrogen < 0.015% by wgt)
$NO_X$	77 ppmdv @ 15% O <sub>2</sub> (1-hour average)	(Fuel Bound Nitrogen ≤ 0.05% by wgt)
Lead		0.02 lbs/hr

 Condition 11 - Annual emissions from the operation of the four GE Model PG711 simple cycle combustion turbines (ES-3, ES-4, ES-5, and ES-6)shall not exceed the limits specified below:

PM / PM <sub>10</sub>	11.7 tons/yr
SO <sub>2</sub>	245.5 tons/yr
VOC	4.9 tons/yr
CO	36.0 tons/yr
NO <sub>X</sub>	246.0 tons/yr

- Condition 13 The combined consumption of natural gas and No. 2 distillate oil in the four GE simple cycle combustion turbines (ES-3, ES-4, ES-5, and ES-6) shall not exceed the annual limits, calculated monthly as the sum of each consecutive 12 month period, as follows:
  - Condition 13 a. Natural gas: 3,100,000,000 scf annually when firing natural gas 100% of the time.
  - Condition 13 b. No. 2 distillate oil: 13,700,000 2,200,000 × (S 0.25)/0.05 gallons annually when firing No. 2 distillate oil 100% of the time. Sulfur (S) is equal to % S by weight annual average, but not less than 0.25%.
  - Condition 13 c. No. 2 distillate oil: 13,700,000 2,200,000 x (FBN 0.015) ÷ 0.035 gallons annually when firing No. 2 distillate oil 100% of the time. Fuel Bound Nitrogen (FBN) is equal to % FBN by weight annual average, but not less than 0.015%.
  - Condition 13 d. When the four simple cycle combustion turbines are firing both No. 2 distillate oil and natural gas, the annual consumption shall be limited by the following equation:

- Condition 14 The approved fuels for the simple cycle combustion turbines (ES-3, ES-4, ES-5, and ES-6) are pipeline quality natural gas (primary fuel) and No. 2 distillate fuel oil (back-up fuel). Distillate oil is defined as fuel oil that meets the specifications for Fuel Oil Numbers 1 or 2 under the American Society for Testing and Materials, ASTM 396-78 Standard Specification for Fuel Oils, or other approved ASTM method, incorporated in 40 CFR 60 by reference. A change in the fuels may require a permit to modify and operate.
- Condition 15 The maximum sulfur content of the natural gas to be burned in the simple cycle combustion turbines (ES-3, ES-4, ES-5, and ES-6) shall not exceed 0.06 weight percent.
- Condition 16 The maximum sulfur content of the oil to be burned in the simple cycle combustion turbines (ES-3, ES-4, ES-5, and ES-6) shall not exceed 0.30 weight percent per shipment. The maximum Fuel Bound Nitrogen (FBN) content of the oil to be burned in the simple cycle combustion turbine shall not exceed 0.05 weight percent per shipment.
- Condition 17 Visible emissions (VE) from the simple cycle combustion turbine (ES-3, ES-4, ES-5, and ES-6) exhaust stacks shall not exceed ten (10) percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed thirty (30) percent opacity as determined by the Environmental Protection Agency's (EPA) Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.
- Condition 27 Except as specified in the NSR permit, the simple cycle combustion turbines (ES-3, ES-4, ES-5, and ES-6) are to be operated in compliance with all applicable requirements of 40 CFR Part 60, Subpart GG - Standards of Performance for Stationary Gas Turbines.

# Monitoring & Recordkeeping:

 Condition 19 - The permittee shall monitor the sulfur content of the natural gas being fired in the simple cycle combustion turbines (ES-3, ES-4, ES-5, and ES-6) in accordance with Subpart GG of the NSPS and the US EPA approved custom fuel monitoring schedule. These records shall be available on site for inspection by the DEQ and kept on file for the most current five-year period.

- Condition 20 Fuel monitoring for the nitrogen content of the natural gas fuel (as required by NSPS Subpart GG) has been waived, by the Administrator of the US EPA in the US EPA custom fuel monitoring schedule, approved on July 2, 1998.
- Condition 21 The permittee shall test the No.2 distillate fuel oil to be fired in the simple cycle combustion turbines (ES-3, ES-4, ES-5, and ES-6) for sulfur and nitrogen content on each occasion that fuel is transferred (as referenced in Appendix A) to the storage tank, from any other source or fuel vendor. Fuel oil sulfur content shall be determined using ASTM D2880-78 or another approved ASTM method incorporated in 40 CFR 60 by reference. Fuel oil nitrogen content shall be determined by following current ASTM procedures approved by the Administrator of the US EPA. Initial test methods and changes to test methods used by the permittee to determine sulfur and nitrogen content shall be submitted to and approved by the Piedmont Regional Office (PRO) of the DEQ. Records of fuel oil sulfur and nitrogen content shall be available on site for inspection by DEQ personnel. They shall be kept on file for the most current five-year period.
- Condition 22 A continuous monitoring system shall be installed and operated (as approved by the DEQ) to indicate/determine and record the hourly fuel consumption (in scf/hour and gallons/hour) and the ratio of water to fuel oil being fired in the simple cycle combustion turbines (ES-3, ES-4, ES-5, and ES-6). The system shall be accurate to within +5.0 percent and shall be approved by the DEQ, Piedmont Regional Office (PRO). The monitoring system shall be operated at all times that water is being injected into the simple cycle combustion turbines. The monitoring system shall be maintained and calibrated in accordance with the manufacturer's specifications. A 30-day notification prior to the demonstration of continuous monitoring system performance is to be submitted to the DEQ, Piedmont Regional Office (PRO). The Permittee shall maintain the records of the simple cycle combustion turbine (CT) fuel oil consumption and ratio of water to fuel oil being fired at the site. These records are to be kept on file for the most current five-year period and be available for inspection by DEQ personnel.
- 40 CFR 60.334 (a) The owner/operator of any stationary gas turbine using water injection to control NO<sub>X</sub> emissions shall install and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine.
- 40 CFR 60.334 (b) and Condition 23 The owner/operator shall monitor the sulfur content and the nitrogen content of the fuel being fired. Note that EPA has waived the nitrogen content monitoring requirement for natural gas.
- Condition 25 The permittee shall submit quarterly excess emission reports to the DEQ Piedmont Regional Office within 30 days after the end of each calendar quarter or semi-annually as needed. Details of the quarterly reports are to be arranged with the Piedmont Regional Office (PRO). Each quarterly report shall cover, at a minimum, the dates included in the calendar quarter and provide the following information for each day in the quarter, report each hour during which the water to fuel ratio fell below that required to demonstrate compliance with the nitrogen oxides permit limit, copy of the written notification and corrective action taken.
- Condition 26 The permittee shall maintain records of all emission data and operating parameters required to demonstrate compliance with the NSR permit. The content and format of such records shall be arranged with the DEQ Piedmont Regional Office.
- Condition 29 The continuous water to fuel ratio monitor, the continuous monitoring data, and the quality assurance data shall, at the discretion of the Board, be used to determine

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compliance with the  $NO_X$  emission limits and/or relevant emission standards. Each monitor is subject to such data capture requirements and/or quality assurance requirements as specified in the NSR permit and as may be deemed appropriate by the Board (40 CFR 60.13 and 40 CFR 60 Appendix B).

- In the event that any of the simple cycle combustion turbines (ES-3, ES-4, ES-5, and ES-6) is operated for a total of more than 20 cumulative hours during a calendar year, the permittee will demonstrate compliance with the opacity limits by conducting visible emissions observations (VEO's) on the corresponding turbine exhaust (EP-3, EP-4, EP-5, and/or EP-6). The frequency of these checks shall be:
  - at least one VEO per calendar year.
  - at least one VEO every 200 hours of turbine operation.
  - at least one VEO during any operability verification testing conducted on the turbine.
     Operability verification testing refers to any periodic tests conducted by the source to assure that the turbines could be put into operation if needed.

Each VEO shall be performed for a sufficient period of time to identify the presence of visible emissions. If no visible emissions are observed, no action shall be required. However, if the visible emissions are observed, a 6-minute Method 9 visible emission evaluation (VEE) shall be conducted. If the average opacity exceeds 10%, modifications and/or repairs shall be performed to correct the problem and the corrective measures shall be recorded. If the opacity problem persists, an 18-minute VEE shall be performed to determine compliance with the 20% opacity limit.

\*Note: The permit content requirements of the regulations for federal operating permits, 9 VAC 5-80-110, state that the permit should include conditions for periodic monitoring sufficient to demonstrate that the facility is in compliance with the limits of the permit.

Compliance Assurance Monitoring (CAM) Requirements

Compliance Assurance Monitoring (CAM) Plan for  $NO_X$  was included in the application for the facility according to 40 CFR 64.2. This was due to the fact that the four (4) simple cycle combustion turbines (Ref. Nos. ES-3, ES-4, ES-5, ES-6) each have water injection as a means to control  $NO_X$  emissions, are subject to an emission limitation, and have uncontrolled  $NO_X$  emissions that are above major source thresholds. They are not exempt as stated in 40 CFR 64.2(b)(2) since they are not "municipally-owned" (i.e. not township or county/city owned). All boilerplate CAM conditions were included in the Title V permit. The permittee shall monitor, operate, calibrate and maintain the water injection controlling the simple cycle combustion turbines according to the following:

Monitoring, Frequency, Records	Performance Criteria	Indicator Range; Averaging Period
<ul> <li>Continuously monitor fuel consumption and the water-to-fuel ratio.</li> <li>Records shall be collected by a computerized system. The system shall collect and retain all relevant data.</li> </ul>	Fuel and water flow meters to have minimum accuracy of 5% and to be calibrated prior to each stack testing event.	<ul> <li>Indicator range: Shown in the table below.</li> <li>Excursion: Water-to-fuel ratio outside the indicator range, averaged over a 1-hour block period.</li> <li>Data points shall be collected every minute, at a minimum, averaged over a 1-hour block period.</li> </ul>

Indicator F	Range for Water-to-Fuel Ratio
Load, percent	Water-to-Fuel Ratio Indicator Range
50 `	Greater than 0.20
75	Greater than 0.30
100	Greater than 0.50

The indicator range for the water-to-fuel ratio was developed from the results of recent and historical stack test data. The ranges were adjusted during this renewal process to reflect recent information. Operation of the water injection controls and combustion turbines in a manner that each indicator is maintained within the appropriate range will provide a reasonable assurance of compliance with the NO $_{\rm X}$  emission limits. This CAM Plan is very consistent with/similar to other turbine facilites controlling NO $_{\rm X}$  emissions with water injection (Reg. # 11348 and 50997) that have already issued their CAM Plan in the facility's Title V permit.

# Appendix A

DEQ included Appendix A concerning fuel oil transfer in the Title V permit. This appendix is cited in condition no. 21 of the NSR permit issued on 12/15/2009 and the appendix is attached to that permit.

# No. 2 Fuel Oil Transfers - Gravel Neck Power Station

Station Process: The station has two (Tanks A and B) 3,125,000 gallon fuel oil tanks that supply ES-3, ES-4, ES-5 and ES-6. Tanks A and B normally receive fuel oil via the Colonial Pipeline system but can also receive fuel oil by truck transfer. Prior to receiving oil one of the fuel oil tanks is identified as the receiving tank and is isolated from service per the station's operating procedure. The tank is valved and tagged closed until the "shipment" is completed and the oil is sampled from the units storage tank after each addition of fuel to the tank per 40 CFR 60.334(i) and analyzed as outlined in condition no. 14 of this permit.

Once the station reviews the fuel oil analyses and ensures it meets the Title V fuel oil quality standards listed in condition no. 16 of this permit, then the fuel oil tank is released for service. In the rare event that the station receives oil by truck transfer, the same process is followed until the entire oil shipment (multiple trucks) is transferred to the receiving tank. Copies of the analyses along with the truck manifests and associated volumes are maintained at the station.

# **Inapplicable Requirements:**

Citation	Title of Citation	Description of Applicability
40 CFR 60, Subpart Dc	Small Industrial- Commercial-Institutional Steam Generating Units	This Subpart does not apply to the oil- fired boilers because they were constructed prior to the applicability date of June 9, 1989.
40 CFR 60, Subpart GG	Stationary Gas Turbines	This Subpart does not apply to the older combustion turbines (ES1 and ES2) because they were constructed prior to the applicability date of October 3, 1977.
40 CFR 60, Subpart Kb	Volatile Organic Liquid Storage Vessels Standards	This Subpart does not apply to the distillate oil storage tanks because the fuel has a maximum true vapor pressure of less than 15 kPa.
40 CFR 60, Subpart IIII	Stationary Compression Ignition Internal Combustion Engines Standards	This Subpart does not apply to the emergency generators because they were constructed prior to the applicability date of July 11, 2005.
40 CFR 60, Subpart KKKK	Standards of Performance for Stationary Combustion Turbines	This Subpart does not apply to the combustion turbines since the construction of these units commenced before February 18, 2005.
40 CFR 63, Subpart YYYY	National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines	This Subpart does not apply to the combustion turbines since they are considered existing units and are exempt pursuant to 40 CFR 63.6090(b)(4).
9 VAC 5-40-5220 (Rule 4-37)	VOC Standards for Petroleum Liquid Storage and Transfer Operations	This standard does not apply to the fuel oil storage tanks because it is not applicable to units storing petroleum liquids with a vapor pressure less than 1.5 pounds per square inch.
40 CFR 60.334 b	Monitoring of Operations	NSPS Subpart GG requires monitoring of the nitrogen content of the fuel being fired in the turbines. This requirement has been waived for natural gas by the US EPA Administrator in the US EPA Custom Fuel Monitoring schedule, approved July 2, 1998.

# Streamlined Requirements:

DEQ removed the condition (III. E. 4.) for the initial notification for the construction of the wet compression system because this information was submitted on May 29, 2009.

# Clean Air Interstate (CAIR) Requirements:

 These requirements were added to the Title V permit because the facility is subject to these regulations and to make them federally enforceable. The following condition was placed in the Title V permit:

The permittee shall comply with all applicable CAIR requirements (9 VAC 5-140-1010 et seq., 9 VAC 5-140-2010 et seq., 9 VAC 5-140-3010 et seq., and 40 CFR Part 96) by the compliance date in the respective Part of 9 VAC 5 Chapter 140. The CAIR application in Appendix B to this document contains specific conditions and expires upon expiration of this Title V permit.

(9 VAC 5-80-110, 40 CFR Part 96, and 9 VAC 5 Chapter 140)

#### **FACILITY-WIDE REQUIREMENTS**

- 12/15/09 NSR permit Condition 31 If, for any reason, the affected facilities or related air
  pollution control equipment fails or malfunctions and may cause excess emissions for more
  than one hour, the owner must notify the Director, Piedmont Regional Office, within four (4)
  daytime business hours of the occurrence. In addition, the owner must provide a written
  statement, within 14 days, explaining the problem, corrective action taken, and the estimated
  duration of the breakdown/shutdown.
- 12/15/09 NSR permit Condition 33 In order to minimize the duration and frequency of excess emissions due to malfunctions of process equipment or air pollution control equipment, the permittee shall (1) develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance, and (2) maintain an inventory of spare parts to minimize the duration of air pollution control equipment breakdowns.
- 12/15/09 NSR permit Condition 34 The permittee shall maintain on site written operating
  procedures for the related air pollution control equipment. Operators shall be trained in the
  proper operation of all such equipment and shall be familiar with the written operating
  procedures. These procedures shall be based on the manufacturer's recommendations, at
  minimum. The permittee shall maintain records of training provided, including names of
  trainees, date of training, and nature of training.
- 12/15/09 NSR permit Condition 37 In the event of any change in control of ownership of the
  permitted source, the permittee shall notify the succeeding owner of the existence of the NSR
  permit by letter and send a copy of that letter to the DEQ, Piedmont Regional Office (PRO).
- 12/15/09 NSR permit Condition 38 The permittee shall allow authorized local, state and federal representatives to: (1) enter the premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit; (2) have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit; (3) inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of the NSR permit; and (4) sample or test at reasonable times. For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.

- 12/15/09 NSR permit Condition 39 Annual requirements that fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response to DEQ requests for information. The information requested may include, but is not limited to, process and production data, changes in control equipment, and operating schedules. Such requests for information will either be in writing or by personal contact. The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, § 2.1-340 through 2.1-348 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board), and 9 VAC 5-170-60 of the State Air Pollution Control Board's Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.
- 12/15/09 NSR permit Condition 40 For a period of five years following the resumption of regular operation after installation of the wet compression systems, the permittee shall submit a report to the Piedmont Regional Office (PRO) of DEQ if the annual emissions, in tons per year, from the construction and operation of the four wet compression system in permit condition no. 2 (of the 06/23/08 NSR permit) exceed the baseline actual emissions by a significant amount for that regulated pollutant and if such emissions differ from the preconstruction projection. Such report shall be submitted to PRO within 60 days after the end of the year and shall comply with the applicable requirements of 9 VAC 5-80-1785.
- 12/15/09 NSR permit Condition 41 A copy of the NSR permit is to be maintained on the premises of the facility to which it applies.

# Testing:

The permit (Condition No. III.D.4) allows for representative testing between the four combustion turbines (ES-3, ES-4, ES-5, ES-6) at Dominion – Gravel Neck (Reg. No. 50336) and the four combustion turbines (ES-1, ES-2, ES-3, ES-4) if the permittee can show the turbines are low mass emission units (LMEs) and that each of the units at both facilities are identical. The permit also requires that Dominion conduct the LME test that is due before the end of the next cycle which ends in 2012 at Dominion – Gravel Neck. The permit requires that Dominion continue to test units in a selection process so that no individual units goes untested before repeating testing on the same unit in subsequent years.

# **GENERAL CONDITIONS**

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within one business day.

# STATE-ONLY APPLICABLE REQUIREMENTS

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have not been included in the Federal Operating Permit:

- 9 VAC 5-40-340, Standard for odor;
- 9 VAC 5-60-200, Emission Standards for Toxic Pollutants from Existing Sources (Rule 6-4) et. seq.; and,
- 9 VAC 5-60-300, Emission Standards for Toxic Pollutants from New and Modified Sources (Rule 6-5), et. seq.

#### **FUTURE APPLICABLE REQUIREMENTS**

The Babcock and Wilcox boilers located at Surry are not subject to *National Emission Standards* for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters (MACT DDDDD) because they are exempted under 40 CFR 63.7491 (c) and not subject to the proposed *National Emission Standards* for Hazardous Air Pollutants for Stationary Combustion Turbines (MACT YYYY) because they are not a major HAP source.

# INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting will be required for these emission units in accordance with 9 VAC 5-80-110. The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Pollutant Emitted (9 VAC 5-80-720 B.)	Rated Capacity (9 VAC 5-80-720 C.)	Reg. Citation
Surry Pow	er Station	·		
IS-103	Emergency Diesel Generator (Administrative Building)	NO <sub>x</sub>	465 HP	C
IS-104	(3) Emergency Diesel-Powered Water Pumps	NO <sub>X</sub>	261 HP/each	C
IS-105	ISFS Emergency Diesel Generator	NO <sub>x</sub>	67 HP	С
IS-106	Security Emergency Diesel Generator	NO <sub>x</sub>	67 HP	С
IS-107	Units 1-3 Back-up Air Compressors (3)	NO <sub>x</sub>	5 HP/each	С
IS-108	Aboveground Fuel Oil Storage Tank	voc	210,000 gallons	В
IS-109	(2) Underground Fuel Oil Storage Tanks	VOC	20,000 gallons/each	В

Emission Unit No.	Emission Unit Description	Pollutant Emitted (9 VAC 5-80-720 B.)	Rated Capacity (9 VAC 5-80-720 C.)	Reg. Citation
IS-110	Fuel Oil Storage Tanks	VOC	1 @ 1200 gallons 1 @ 1000 gallons 6 @ 550 gallons	В
IS-111	Fuel Oil Storage Tank (Emergency Water Pumps)	voc	4800 gallons	В
IS-112	Fuel Oil Storage Tanks (Administration Building, ISFSI, and Security Emergency Generators)	voc	1 @ 1500 gallons 1 @ 500 gallons 1 @ 285 gallons 1 @ 5 gallons	В
IS-113	Gasoline Storage Tank	VOC	4000 gallons	В
IS-115	Lubricating Oil Systems	voc	1 @ 22000 gallons 2 Reservoirs (with 3 bowsers each) @ 20,500 gallons each	В
IS-116	Used Lubricating Oil Systems	voc	1 @ 22000 gallons 1 @ 10,000 gallons 1 @ 1070 gallons	В
IS-117	Sulfuric Acid (99%) Tank	Sulfuric Acid Fumes	9401 gallons	В
IS-118	Hydrazine (35%) Tanks	Hydrazine	2 @ 345 gallons each	В
IS-119	Hydrazine (1.5%) Tanks	Hydrazine	2 @ 564 gallons each	В
IS-121	Plant Welding			Α
IS-122	Degreasing Operations	VOC	2 @ 150 gallon each	В
IS-123	Gravel Roads	PM <sub>10</sub>		В
IS-124	Plant Painting	voc		Α
IS-125	Grit Blasting	PM <sub>10</sub>		В
IS-126	Radwaste Facility	VOC	500 SCFM Total Tank Vent System	В
IS-127	Paint Shop Solvent Recovery System	voc	15 gallons/3.5 hrs	В
IS-128	Caterpillar Olympian Emergency Diesel Generator	NOx	72 HP	С
IS-129	Sullair Backup Compressor (Low-level Intake)	NOx	250 HP	С
IS-130	Sullair Backup Compressor (Main Station Backup)	NOx	230 HP	С
IS-131	FAP Security Diesel Generator	NOx	190 HP	С
IS-132	Emergency Generator (Training Center Sewage Ejector Station)	NOx	65 HP	С
IS-133	B5B Diesel powered Water Pump (Skid-mounted)	NOx	78 HP	IS-133

Emission Unit No.	Emission Unit Description	Pollutant Emitted (9 VAC 5-80-720 B.)	Rated Capacity (9 VAC 5-80-720 C.)	Reg. Citation	
IS-134	B5B Diesel-powered Water Pump (Skid-mounted)	NOx	78 HP	IS134	
Gravel Nec	k Combustion Turbine Station				
IS-1	Gravel Roads	PM <sub>10</sub>	N/A	В	
IS-2	Degreaser "Kleer Flow Cleanmaster"	voc	N/A	В	
IS-3	Units 3, 4, 5 and-6 Glycol Heat Exchanger Systems (8 tanks)	Ethylene Glycol CAS 107211	4 each 50 gallon 4 each 125 gallon	В	
IS-4	Unit 1&2 Turbine Lube Oil tanks (4 tanks)	voc	750 gal 1500 gal 1750 gal 3300 gal.	В	
IS-5	Unit 2 starter motor fuel oil tank	voc	203 gal	В	
IS-6	Oil/Water Separator System (3 tanks)	voc	350 gal, 350-gal, 2,000 gal.	В	
IS-7	Units 3, 4, 5, and 6 Turbine Lube Oil System (12 tanks)	VOC	(4) 250 gal., (4) 500 gal. and (4) 2000 gal	С	
IS-8	Unit 1&2 Emergency Diesel Generator	CO, NO <sub>x</sub> , PM <sub>10</sub> , SO <sub>2</sub> , VOC, HAP's	200 kW	С	
IS-9	Distillate Oil Storage Tank	VOC	3,150,000 gal	A	
IS-10	Distillate Oil Storage Tank	VOC	3,150,000 gal	A	
IS-11	Unit 1 & 2 No. 2 Fuel Oil Storage Tank C	voc	310,230 gallons	В	
IS-12	Mobile Oil Tank	VOC	500 gal	С	
IS-13	Unit 1 & 2 emergency generator fuel oil tank	voc	171 gal	С	
Ā B	Regulatory citation explanations:  A - 9 VAC 5-80-720A - Listed Insignificant Activity  B - 9 VAC 5-80-720B - Insignificant due to emission levels  C - 9 VAC 5-80-720C - Insignificant due to size of emission unit				

# **CONFIDENTIAL INFORMATION**

The permittee did not submit a request for confidentiality. All portions of the Title V application are available for public review.

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# **PUBLIC PARTICIPATION**

A public notice ran in Style Weekly on March 24, 2010. The 30-day state and 45-day EPA concurrent public comment period expired on May 8, 2010. In response to EPA's comments of April 7, 2010, DEQ made the following administrative changes: clarified PM and PM10 and startup, shut-down in the Statement of Basis and included the EPA mailing address for reporting in Section III.E. of the Title V.

Commonwealth of Virginia

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Department of Environmental Quality

Registration Number: 50336

Plant Name: Dominion - Gravel Neck CT Station

BOTTTHIN NAME: 2007

County - Plant ID: 181-00002

	POLLU	PANT :	POLLUTANT EMISSIONS REPORT	REPORT	(PLANT)	(Tons/Yea	/Year)	POLLUTANT EMISSIONS REPORT (PLANT) (Tons/Year)
Parameter List		†	<b> </b> ₩	Parameter List				
Pollutant Type: Criteria Pollutants	ria Pollutan	ts	1					
Years: 2008-2008 CO NH3 NO2 PB PM	CO	SHN	NO2	PB.	DM 10	.0 PM 2.5 SO2	S02	VOC
2008	9.551	0.000	9.551 0.000 79.667 0.001 2.247 2.247 28.576 1.996	0.001	2.247	2.247	28.576	1.996